45-DAY COMMENTS

1	DPR is proposing changes to methyl bromide field fumigation regulations that will increase "acceptable" exposure levels and potentially leave workers and communities at even greater risk. ***See response in Attachment B - #47.***	Binders 5 and 6
2	Heed the advice of pesticide hazard evaluation experts a California's Office of Environmental Health Hazard Assessment (OEHHA) and retain the more protective 1 ppb sub-chronic exposure. ***See response in Attachment B - #47.***	Binders 5 and 6; 1-7, 9, T-4
3	Acute exposure can result in death. ***No response necessary.***	Binders 5 and 6
4	Instead of relaxing methyl bromide field fumigation standards, DPR should be working to reduce dependence on the use of soil fumigants (like methyl bromide) and substitute safer pest control methods. ***No response necessary.***	Binders 5 and 6; 8, 9, 11-18
5	The proposed regulations raise "acceptable" subchronic methyl bromide exposure limits nine times for children (1 ppb to 9 ppb) and eight times for adult workers (from 2 ppb to 16 ppb). The relaxed subchronic exposure limits are based on a controversial interpretation of a 2002 study conducted by methyl bromide manufacturers. Pesticide hazard evaluation experts at OEHHA concluded this study was highly flawed and recommend keeping the more protective 1 ppb exposure limit. ***See response in Attachment B - #47.***	9, 10
6	Tolerance levels for long-term exposure must be maintained at previously established levels of 1 part per billion (ppb) for children and 2 ppb for adults. ***See response in Attachment B - #47.***	57

7	Proposed regulations are not protective of human health and do little to discourage the use of the highly toxic and known ozone-depleting chemical methyl bromide. ***No response necessary.***	T-9
8	The Cal/EPA Advisory Committee on Environmental Justice presented a series of recommendations to the Interagency Working Group on Environmental Justice. The cornerstone of their recommendations is the utilization of the precautionary principle in decision-making, as well as an analysis of cumulative impacts. Both should be considered in the context of these regulations in order to ensure that the most at-risk populations are truly protected. ***California's pesticide regulatory program is based on a precautionary approach. Before DPR allows pesticides to be used, manufacturers must generate and submit health and environmental data to the Department for evaluation. The decisions that DPR makes about which pesticides to allow into the marketplace and under what conditions are based on cautious assumptions designed to protect human health and the environment from unacceptable impacts. When a product is registered, legally binding limitations are placed through product labeling on where, when and how the product can be used. DPR and the county agricultural commissioners (CAC) strictly control and track the use of pesticides in California. Moreover, DPR has a program of continual evaluation of pesticides and pesticide use practices. The Department uses the data collected to evaluate the effectiveness of DPR's regulatory programs and to assess the need for changes to prevent or minimize potential harm, even though no problems may have occurred.***	9
9	Section 6450(d) – There is no basis to limit application to 40 acres per day. DPR has calculated buffer zones for up to 40 acres – why not up to 80 acres. By doing larger application blocks, we limit the number of trips, number of setup and take downs, and travel time thus limiting the potential for work related injuries. Recommend increasing to 80 acres. ***DPR partially agrees. DPR revised the regulations so applications larger than 40 acres may be conducted with DPR's approval. Applications larger than 40 acres will require increased buffer zone size, increased buffer zone duration, and possibly other requirements. DPR will evaluate applications larger than 40 acres on a case-by-case basis.***	41, 46, T-4
10	In order for the 80-acre block to be isolated from other fumigations, it is recommended that the distance between other application blocks be 2600 feet or that a waiting period of 36 hours between fumigations be observed. ***See response in Attachment B - #47.***	41

11	Support the use of 1 ppb as the target air concentration for subchronic exposure due to the overall poor quality of the data and the uncertainty in the protection of infants and children and the uncertainty in the evaluation of methyl bromide formulations. ***See response in Attachment B - #47.***	T-6
12	Repeated drift episodes have sickened hundreds of rural residents in California, pointing to the urgent need for strong controls on all fumigants, including chloropicrin, metam sodium, and metam potassium. Rather than relax methyl bromide regulations, the state should work to reduce dependence on all fumigants. ***No response necessary.***	1-7,
13	DPR intends to weaken standards. ***DPR intends to adopt minimum statewide regulatory standards that can and should be supplemented at the local level by CACs. The CACs will still have the discretion to make decisions regarding protective measures for schools and sensitive areas and allowable activities in outer buffer zones***.	39
14	We urge the use of this chemical be stopped immediately. It disrupts the ozone layer and is bad for health. ***No response necessary.***	56, 53
15	Oppose the relaxation of the methyl bromide regulations. ***No response necessary.***	52, 54, 58
16	Methyl bromide is a convenient tool for farming, pest management, etc, but DPR needs to look out for overall health and environmental issues. It is okay for strawberries to cast a little more. ***No response necessary.***	52

17	Section 6450(e) should be modified to give the Director authority to change the permeability requirement if improved tarps are developed. At the least, there should be some provision for commercial scale experimental work with new tarps. ***DPR agrees that improved tarpaulins should be allowed and modified the text. There is a mechanism (a research authorization pursuant to Title 3, California Code of Regulations (3CCR) section 6260) already in place to recognize improvements and move a new tarpaulin into regulation.***	42, 49
18	The "raised-tarpaulin nursery fumigations of less than one acre" exemption is not justified and undermines the effectiveness of the regulation. DPR typically includes nursery fumigations in soil fumigation permit conditions and thus, for consistency, nursery fumigations should not be exempt from this rulemaking. In contrast, fumigation of tree holes, potting soil, and greenhouse fumigations—which are properly listed as exempt from the proposed regulations—require separate regulatory language because they involve different equipment and processes. In addition, encouraging nurseries to fumigate in plots of less than one acre increases the risk of sub-chronic exposure to nearby workers and residents because the fumigations would occur more frequently during concentrated periods of time. ***The regulation clarifies that raised-tarpaulin nursery fumigation of less than one acre is exempt from these regulatory requirements. DPR does not include small nursery fumigations in soil fumigation permit conditions; DPR issues a separate set of permit conditions. The one-acre raised-tarpaulin type application used for small nursery fumigations is different than other soil fumigations. Consequently, one acre was chosen as a logical place to divide these two types of soil treatment. Larger areas can be treated using one of the methods recognized in the regulation.***	47

19	The methyl bromide work plan in section 6450(a) should specify that the application company phone number, which is already required to be listed on posting signs pursuant to section 6776(f), must be a phone number where a competent representative of the application company must be reachable immediately. The need for this requirement is demonstrated by a recent Sonoma county investigation in which the designated Tri-Cal representative did not return multiple calls from a County Agricultural Commissioner Inspector over a period of six hours. ***Currently, the work site plan includes the tarpaulin repair response plan. The tarpaulin repair response plan requires the operator of the property to identify the responsibilities of the licensed pest control business and/or permittee with regard to tarpaulin damage detection and repair activities. At a minimum, the plan shall indicate the parties responsible for the repair. The regulation was modified to include the response time of the repair. Additionally, section 6776(f) posting requirements already requires the name, address, and telephone number of the applicator.***	47, T-3
20	Support clarification that tarp removal is only a "fumigation handling activity" prior to the expiration of the re-entry period. ***DPR agrees.***	42
21	A big concern is the lack of research and the lack of movement on behalf of DPR to look at alternative methods of treating pest problems. ***No response necessary.***	T-9

TOWNSHIP CAPS and BUFFER ZONES

22	Truly protective regulations should incorporate monthly township limits on methyl bromide use and increase required buffer zones to achieve safe air levels. DPR's own staff analysis in 2001 showed that monthly township use limits on methyl bromide use were needed to reduce air levels below 1 ppb. ***See response in Attachment B - #47.***	1-7, 11-18
23	There is no sound science for the 270,000-pound township limit. The available data contradicts the reasoning DPR used to arbitrarily recommend such a limit. There is no need for a township cap and it should be stricken from the proposed regulation. ***See response to comment #24.***	50, T-16
24	There is no need to impose a township cap of 270,000 pounds per calendar month. The highest usage cited has not been higher than approximately 232,000 pounds per calendar month per township, and data from the ambient air studies during this use period indicated that the highest seasonal average number was 2.22 ppb. This is below the new reference concentration of 9 ppb for children. In addition, based on DPR's regression analysis of air monitoring data vs. pounds of use, you could apply 385,650 pounds per month per township before the 9 ppb reference concentration of children would be exceeded. As well as being an unnecessary regulation, DPR already has the authority to mitigate should it become necessary in the future. ***A township cap is one, but not the only, measure to ensure methyl bromide concentrations do not exceed nine parts per billion(ppb). To provide more flexibility in the regulatory restrictions, DPR modified the text to require DPR to ensure that ambient air concentrations of methyl bromide do not exceed an average daily nonoccupational exposure of nine ppb in a calendar month. This replaces the proposed limit of 270,000 pounds of methyl bromide used in any township in any calendar month. DPR and CACs will condition restricted materials permits to ensure the air concentration limit is not exceeded. A township cap of 270,000 pounds per month will be one method to ensure the air concentration limit is not exceeded, but DPR and CACs may also employ alternative permit conditions.*** ***DPR's analysis of data indicates that a township cap or other regulatory restrictions may be necessary to limit seasonal or subchronic exposure to nine ppb or less. Ambient air measurements detected seasonal average concentrations as high as 7.7 ppb, not 2.22 ppb. DPR's analysis of ambient air measurements and pesticide use patterns indicate that methyl bromide air concentrations may exceed nine ppb unless some restrictions are imposed. DPR estimates that there is approximately a five percent probability of exceeding nine ppb when***	46

	270,000 pounds of methyl bromide is applied in a township during one month. Use of higher amounts, such as 385,650 pounds have a higher probability of exceeding nine ppb. During 2002, as much as 232,000 pounds of methyl bromide were applied in a single township in one month, equivalent to approximately 1,000 acres. Fumigation of as little as 100 additional acres would be enough to exceed a township cap of 270,000 pounds.	
25	The new limit on the amount of methyl bromide which could be applied in a township would equate to a maximum of between 675 acres to 900 acres. This means only 1600 acres could be fumigated in a month without running into the cap. Only 675-1600 acres of the total 23,040 total acres in a township could be treated in a month. Such limitations are completely unfounded and unnecessary. ***See response to comment #24.***	41
26	Township cap is inappropriate and unnecessary. Methyl bromide use has not approached the limit in any township and no township had a monthly use level that would have reached the reference level for children of 9 ppb in 2001; and Montreal Protocol has frozen methyl bromide production for developed nations at 30 percent of the 1991 baseline production level as of January 1, 2003 and with the exception of critical uses, will phase out production in developed nations entirely on January 1, 2005. ***See response to comment #24. In addition, critical use exemptions approved for 2005 will allow methyl bromide production and importation at 35 percent of the 1991 baseline level, a higher amount than the 30 percent currently allowed. Use of methyl bromide in 2005 could be higher than 2003 and 2004.***	49
27	Based on DPR pesticide use data, methyl bromide use has not approached the limit in any township and usage statewide has been declining due to international treaty and US EPA limits on its manufacture. Because the very high usage in past years has not exceeded approximately 202,000 pounds, the proposed limit is totally unnecessary. ***See response to comment #24.***	41, 42, T-14
28	The high use townships were exactly the townships targeted for DPR's required ambient air monitoring in 2001 and 2002. The Statement of Reasons dramatically understates the significance of the 2001 and 2002 ambient air monitoring studies. ***See response to comment #24.***	41, 42

29	If DPR insists on moving forward with any application cap, it should be clarified that this be based on a consecutive 30-day period, rather than a calendar month. ***Basing the cap on a consecutive 30-day period rather than a calendar month is much more difficult to administer, while providing little difference in the level of health protection. However, the regulations allow the flexibility to use a consecutive 30-day period in cases where it is feasible.***	41, 42
30	The proposed regulation includes no mechanism to implement this limit. The County Agricultural Commissioners are the enforcing mechanism and it appears this would be impossible for them to enforce. Because the proposed cap cannot be enforced or made operative, it cannot be properly promulgated. ***To provide more flexibility in the regulatory restrictions, DPR modified the text to require DPR to ensure that ambient air concentrations of methyl bromide do not exceed an average daily nonoccupational exposure of nine ppb in a calendar month. This replaces the proposed limit of 270,000 pounds of methyl bromide used in any township in any calendar month. However, the cap can be enforced and made operable. DPR and CACs have similar limits for other pesticides. If township cap is used, DPR and CACs have planned for the implementation and enforcement of a methyl bromide township cap.***	41, 42, T-4, T-14
31	DPR has witnessed how difficult area caps are to administrate at the county level. Because there are four competing registrants of methyl bromide, this would make the administration of the cap by the commissioner impossible. ***See response to comment #30.***	41, 42
32	Township cap is inappropriate and unnecessary. The use of alternatives to methyl bromide in strawberry fruit production has increased in each of the last three years. ***See responses to comments #24 and 26.***	49
33	Township cap is inappropriate and unnecessary. DPR has existing authority to deal with the unlikely event that use in a township may exceed the target. Section 6444, among other authorities, provides that the director or commissioner may cancel permits for application s specific pesticides if health hazards exist. ***See response to comment #24.***	41, 49, T-4

34	There is no existing mechanism to administer a township cap system for a pesticide with multiple registrants. The burden of monitoring and allocating the use will fall to the commissioners or DPR. Cost of establishing a complex infrastructure to administer a cap that likely will never be reached is unnecessary and wasteful. ***See response to comment #30.***	45, 48, 49,
35	Concerned about the design of the air monitoring studies and the subsequent analysis of data. We recognize the high degree of complexity associated with attempts to model chronic exposure to pesticides and feel that DPR should view the current analysis as a preliminary study and not a regulatory benchmark. ***DPR has modified the text to require DPR to ensure that ambient air concentrations of methyl bromide do not exceed an average daily nonoccupational exposure of nine ppb in a calendar month. This replaces the proposed limit of 270,000 pounds of methyl bromide used in any township in any calendar month.***	49
36	We are concerned about how such limits will be enforced. Will the first grower to issue their complete work site plan be the one selected? ***DPR has modified the text to require DPR to ensure that ambient air concentrations of methyl bromide do not exceed an average daily nonoccupational exposure of nine ppb in a calendar month. This replaces the proposed limit of 270,000 pounds of methyl bromide used in any township in any calendar month. The regulations now allow flexibility in achieving the air concentration limit. If a township cap is used to achieve the air concentration limit, the cap may be enforced in several ways. First come, first served is one, but not the only, method to allocate the available methyl bromide. DPR and CACs will address this issue on a case-by-case basis.***	50
37	Limits monthly township applications to 270,000 pounds. This limit should be reduced to 20,000 pounds per month, the level needed to reduce air levels to 1 ppb according to DPR's own analysis, in order to properly protect public health. ***See response in Attachment B- #47.***	47, T-9, T-12
38	DPR must rely on 1 ppb and 2 ppb target air concentration levels to determine monthly township levels. ***See response in Attachment B- #47.***	47

39	DPR's proposed township limit of 270,000 lbs/mo is based on monitoring data which was not collected in areas of most concentrated methyl bromide use. The proposed monthly use cap of 270,000 lb per township cannot be expected to control exposure levels to 9 ppb in or near the sections of particularly concentrated methyl bromide use. ***DPR has modified the text to require DPR to ensure that ambient air concentrations of methyl bromide do not exceed an average daily nonoccupational exposure of nine ppb in a calendar month. This replaces the proposed limit of 270,000 pounds of methyl bromide used in any township in any calendar month. DPR's analysis of the data correlated methyl bromide air concentrations with use patterns. DPR employs this correlation to estimate air concentrations in areas not monitored. If a township cap is used, it will ensure air concentrations do not exceed nine ppb in all areas, including those not monitored.***	47
40	Township caps should be administered by the counties and DPR using a combination of increased buffer zones and allotments based on use patterns over the previous several years. ***The regulations allow the flexibility to achieve the air concentration limit by increasing buffer zones, allotments, or a combination of both.***	47
41	DPR suggests capping methyl bromide applications to 270,000 pounds for every township. DPR states the resulting exposure at this level would be 9 ppb for children and 16 ppb for adults. These numbers are in contrast to recommendations by the National Academy of Sciences and OEHHA, which recommends 1 ppb for children and 2 ppb for adults (American Journal of Epidemiology, May 2003). ***See response in Attachment B-#47.***	8
42	Monthly use and ambient air monitoring results do not support caps. ***See response to comment #24.***	45
43	I am at a loss to understand why additional regulations are justified given that three years of data show that the concentrations across many sites and usage levels are all below the target concentrations. I conclude that since the goal of achieving average concentration below the target levels has already been met, there is no need for additional regulations." ***See response to comment #24.***	51

44	To follow the typical conservative estimation procedures, the 95th percent confidence limit of the average by site and then by year was calculated and added." ***See response to comment #24.***	51
45	The rationale that the highest values justify the regulation overlooks the low frequency of the high values as well as their origin. In looking at the data, it is likely that some of the highest values were source impacted…. Therefore, although there may be a tendency to focus on the highest concentration as indicative of the need for regulations, the overall data suggest that these values were outliers and not representative of general ambient air conditions." ***The assertion that the highest values were source impacted and/or outliers is speculative. Since the monitoring stations were established where people may work or live, the monitoring stations are outside the buffer zones. Source impacted values could only be caused by illegal applications. There is no evidence that these occurred, and if they did this shows that additional regulatory requirements are needed to ensure air concentration limits are not exceeded.*** ***The highest concentration detected by Air Resources Board (ARB) occurred on Pajaro Middle School (PMS) site in 2000. This is one of the high concentrations that the commentor suggested was an outlier. DPR conducted regressions with and without PMS data respectively, and no significant difference was found between the two regression lines. The high concentration at PMS site corresponded to the high use, and the proportionality between concentration and use was well supported by measurements at other monitoring sites.***	51
46	The derivation of township caps through the use of regression analysis appears to suffer from a common fallacy of statistical analysis: oversimplifying a complex phenomenon simply because one can calculate statistics on it…. Many physical parameters would need to be taken into account, such as local and regional weather conditions; the different properties of the soil onto which the fumigant was applied - moisture, permeability, temperature, organic content, etc; permeation through the plastic field tarps; application procedures, etc…. As an exploratory exercise and to demonstrate how this fallacy can occur, I performed three regression analyses on the DPR data…. My conclusion is that although there is a superficial relationship between methyl bromide use and air concentrations, the actual process is too complicated to model and predict, and that any regression analysis leading to any prediction is ineffectual. The Department is urged to examine other models that more closely reflect the physical realities of the situation.	51

	DPR has modified the text to require DPR to ensure that ambient air concentrations of methyl bromide do not exceed an average daily nonoccupational exposure of nine ppb in a calendar month. This replaced the proposed limit of 270,000 pounds of methyl bromide used in any township in any calendar month. The lack of completed peer review mandated Health and Safety Code section 57004 on the methodology that derived the 270,000 pounds per month in any township equating to nine ppb precludes establishing the limit in regulation at this time. ***DPR attempted to factor in wind direction, emission profile, and distance in performing regression analysis to understand the concentration-use relationship. Generally, a distance adjustment on use did improve the relationship over large use areas, but did not improve concentration-use relationship in small use areas below a township size. While the commentor is correct in that the cause of a particular air concentration can be viewed as a complex interaction of a set of processes which manifest themselves at that particular time at that particular location, it is reasonable to ask whether it is necessary to fully understand those processes in order to quantify some relationship between air concentration and use. At some level, all modeling is simplification. A simple linear regression is a simplification and many processes and effects are smeared together to produce a result. DPR attempted to account for some of the complexity (i.e. wind direction, etc.) but got no explanatory benefit. Therefore, DPR has adopted the simple linear regression because it represents a reasonable view that concentration and use are related. The kind of modeling which the commentor called for may be impossible in this situation because information necessary for conducting a detailed, explanatory model is not available. For example, the wind fields over the sampling area for every hour for every day when sampling occurred are unknown. Some regional meteorological data could be obtained, but not site-by-site wind directions and speeds. Also, the exact location of field applications during the sampling periods is not available because pesticide use reports only specify fields within a section, which is one-square mile area. Thus the exact field location is not known. There are many other areas where lack of information would preclude a detailed modeling analysis of the kind that the commentor seems to be calling for.*** ***The air concentration was related to use pounds, not just because DPR can calculate statistics to measure the relationship, but because DPR believes there is a causal relationship between the two variables. We believe that more use causes higher seasonal air concentrations. Using a linear regression model, DPR successfully established empirical relationship between air concentration and use based on ARB air monitoring data. Using ARB 2000 air monitoring data, the regression coefficient between air concentration and use over 7x7 mile area was 0.95. This implies that 95 percent variation in observed air concentrations can be explained by the use amount alone. After the ARB 2002 air monitoring data became available, we reconstructed regression models using the same method. No statistical difference was found between the models calibrated***	

	independently with data from different years. The commentor, under contract to the Alliance of the Methyl Bromide Industry (AMBI), conducted air monitoring in two years, 2001 and 2002. There were many inconsistencies and unexplained omissions in AMBI 2001 air monitoring. For this reason, the AMBI 2001 data was not included in the regression analysis upon which the township use cap was drawn. The AMBI data for 2002 was reviewed with respect to the quality assurance and found to be acceptable. Therefore, it was included in the full analysis based on its acceptability, not based on its effect on the analysis. In general, DPR includes data in an analysis unless there are compelling physical, methodological, quality assurance or similar reasons for not including it. Though the result of including AMBI 2002 in the full set of data was to reduce the R^2 values, we are confident in the concentration-use relationship that emerged from the regression. ***The commentor fit a set of data with three models, linear, exponential, and polynomial. The dataset included ARB 2000 & 2001 data, and AMBI 2002 data. All three models fit the data poorly, with the R^2 values from 0.345 to 0.460. As a result, the commentor concluded the regression analysis between ambient air concentration and use was inappropriate and failed.*** ***DPR repeated the regression analysis using the same models as the commentor used, except that the AMBI 2002 data were removed from the dataset. DPR's analysis is significantly different from the commentor's:*** ***(1) The linear model and the polynomial model are better than the exponential model. Moreover, the linear model and the polynomial model nearly overlapped to each other, and did not show significant difference between them;*** ***(2) The coefficient of determination (R^2) of all three models are higher, ranging from 0.647 to 0.808;*** ***(3) The linear model and the polynomial models make more sense now. For example, the intercept coefficient for the linear regression is closer to zero after removing the AMBI 2002 data, and the polynomial curve takes an 'u' shape in stead of 'n' shape.*** ***These results do not agree with what the commentor concluded. Inclusion of the AMBI 2002 data in the analysis diminished the explanatory value of the regression. There were apparent inconsistencies between ARB data and AMBI data. More specifically, AMBI's data tended to present lower air concentrations than the ARB data in areas with the comparable use intensity.***	

47	Proposed regulations would give individual county agricultural commissioners authority to approve even less protective buffer zones than those set by DPR if "the county agricultural commissioner determines, based on other information, that the methyl bromide application will assure equal or less exposure." CACs do not have the capacity to make such assessments accurately, and should not be given this authority. ***CACs shall rely on the information provided in the Methyl Bromide Field Fumigation Buffer Zone Determination, Est. 2/04, to determine the appropriate buffer zone size and other protective measures. Several laws contained in the FAC (sections 11501.5, 14006.5, and 14007) and state regulation contained in 3CCR (sections 6428-6432), require CACs to follow the recommendations of the Department. Under the existing permit system, the CACs must craft methyl bromide permits based on their evaluation of the actual use conditions that exist at the specific fumigation site. CACs are responsible for knowing local conditions and utilizing such knowledge in making these evaluations. CACs shall approve buffer zone sizes and durations based upon local conditions. This is in accordance with FAC Division 2, Chapter 2, section 2281, which states, "Except as otherwise specifically provided, in all cases where provisions of this code place joint responsibility for the enforcement of laws and regulations on the director and the commissioner, the commissioner shall be responsible for local administration of the enforcement program. The director shall be responsible for overall statewide enforcement and shall issue instructions and make recommendations to the CAC . . . ." DPR will continue to provide oversight of the county programs. State law (FAC section 14009) also provides a procedure to review a permit when a member of the public believes that a CAC abuses his or her discretion.***	1-7, 11-18, T-4
48	Recommend to allow the inner buffer zone to extend into adjacent areas of natural vegetation or into areas in rural or semi-rural environments that are not in current use by the resident of owner. Extension of the inner buffer zone onto properties with occupied residences or businesses would require notification and consent of the property owner. These conditions would be enacted at the discretion of the commissioner. ***DPR does not agree with this comment. The activities allowed within the inner buffer zone are more restrictive and should only be allowed to extend onto adjoining agricultural conditions under carefully controlled conditions. A higher level of assurance that permission was obtained to extend into another property should be required.***	40

49	Do not agree that the Methyl Bromide Field Fumigation Buffer Zone Requirements (guidelines) should be incorporated into regulation nor that the commissioner must consult with the director prior to making determinations that are already within the commissioners' authority as is proposed. Over the several years the commissioners have used methyl bromide permit guidelines, there's nothing which shows that they abused their discretion by deviating from the guidelines to the extent that persons or property were endangered. ***DPR uses regulations to set statewide requirements. CACs use restricted materials permits to establish local requirements, in addition to the regulations. Pursuant to FAC section 14004, DPR and the CACs enforce California's restricted materials laws and regulations. Under FAC section 14006.5, CACs have authority to issue restricted materials permits covering the use of methyl bromide and are required to consider local conditions when doing so. DPR's intent is to adopt regulations which CACs can supplement with permit requirements addressing local conditions.***	45
50	Methyl Bromide Field Fumigation Buffer Zone Requirements (guidelines) should not be incorporated into regulation. CACs could do no less under the scheme dictated by the California restricted materials regulations (section 6400 et. seq.). There is no factual evidence supporting the need to eliminate CAC flexibility to respond to local conditions. There is no evidence that the CAC have abused their discretion. The Court ruled that the guidance documents were not regulations. ***See response to comment #49.***	41, 42, 49
51	Allow counties to shrink the buffer zones is a very bad idea and could lead to communities being unnecessarily exposed. It would be a much sounder policy for the State to set minimum protective standards as floors and allow counties to be more protective. The State should not allow counties to be less protective. ***See response to comment #47.***	T-4
52	The Fumigant Alliance worked for over a year with DPR on a protocol for regional buffer zones and is currently working on the definition of regions and weather conditions. The regional buffer zones allow for refinement of the buffer zones to address the specific characteristics of an area. Putting buffer zone charts into the regulations is unnecessary and will create hurdles to amending the charts. The proposed regulation would prevent the implementation of regional buffer zones. ***DPR agrees that buffer zones based on regional weather conditions would require amendment to the regulations. DPR believes that the scientific peer review and public comment required under the rulemaking***	42, 46, 48

	process is appropriate before implementing regional buffer zones.	
53	Placement of the buffer zone requirements in regulation would remove the flexibility of the CACs and place in stone the buffer zone suggestions. If DPR were to receive further scientific data that larger buffer zones should be required, it would have to go through the cumbersome process of amending the regulations, rather than revising the guidelines quickly. Imposition of the Administrative procedures would "effectively eviscerate" FAC section 2281 and would diminish drastically the speed and effectiveness by which the DPR would communicate the latest information regarding the safest buffer zones to CACs. ***CACs always have the ability to implement more stringent requirements through permit conditions than those described in regulations. Permit conditions could be used as an interim measure until new regulations are implemented.***	41
54	Every application of methyl bromide is governed by specific permit conditions set by CACs at time of permit. The Guidance Manual is best understood as information provided by DPR to be used by CAC as part of an individualized permitting process and is an essential par of the process of making permit applications safe and insuring the needs of the farmer are met. CACs must have this discretion. ***See response to comment #47.***	41
55	Incorporating the Guidance Manual would inhibit DPR's ability to incorporate innovations and new models into the information provided to the CACs ***DPR is not incorporating the guidance manual in to the regulations but only information to be use to determine buffer zones. Any new innovations would require scientific peer review under Health and Safety Code section 57004.***	41
56	Support the provision in section 6450.2 allowing the revision or adjustment of buffer zones so they may adapt to local conditions so long as the safety margins are preserved or increased. This is proper because DPR's buffer zones are promulgated based on very conservative assumptions. ***No response necessary.***	42

57	Because of the regulations, most fumigations follow a previous fumigation, i.e. to complete a job you may fumigate every other day. Growers are prevented from working ground for the next application in the inner buffer zone of the initial application. In effect the driver listed above is only transiting through the inner buffer and should not be disallowed from this activity. The grower could supply the driver, who would be discing or cultivating, with a half face respirator as an added measure of safety. ***Drivers of tractors performing fumigation-related activities are allowed inside the inner buffer zone, provided they follow all fumigation handling requirements. For example, tractors forming beds, preparing soil, or laying drip tape are performing fumigation-related activities. Employees performing these tasks may be inside the inner buffer zone and are subject to the work hour limitations for drivers and all other fumigation-handling requirements. In contrast, drivers of tractors who are discing for reasons not related to fumigation are not performing a fumigation handling activity and should not be inside the inner buffer zone.***	46
58	Montreal Protocol Treaty bans methyl bromide for field fumigation beginning January 1, 2005. However the Treaty also grants countries the opportunity to apply for Critical Use Exemption (CUE) for their growers, providing that a critical need exists. CUEs are reviewed by the U.S. EPA and then forwarded on to the international body authorized by the Treaty to review all applications. Once granted approval, U.S. EPA determines how the fumigant will be allocation to growers in the U.S. The buffer zones proposed attempt to further limit a decision supported by an international body and federal government. Cannot support California's effort to undermine this process. ***The U.S. Environmental Protection Agency's regulatory requirements under the Montreal Protocol, such as critical use exemptions, pertain to the protection of stratospheric ozone. DPR's regulatory requirements pertain to human health. The regulatory actions are independent. DPR's regulatory requirements do not conflict with those required under the Montreal Protocol.***	43
59	The proposed buffer zones will have a disproportionate impact on small farmers because there is no consideration for the size of the field. A table grape grower with 40 acres will lose significantly more land to a buffer zone than a grower with 100 acres. Crops that rely on methyl bromide tend to be higher value commodities grown on small acreage. This arbitrary buffer zone will do nothing but continue to disadvantage California growers to the benefit of our national and international competitors. Regulations do not take into consideration the size, shape or pattern of the parcel of land and thus provide no flexibility for different crop sizes when apply methyl bromide. ***A grower with 40 acres may not lose more land than a grower with 100 acres. The loss of land depends on the***	43

	number and location of houses and other sensitive sites in relation to the field. For example, a grower with 100 acres and several houses 100 feet from the field boundary will lose more acreage than a grower with 40 acres, but the nearest house is 1000 feet from the field boundary. The size of the buffer zone is not arbitrary. The size depends on the size (number of acres), application rate, and method of application. Fumigating a larger field in smaller blocks over several days will decrease the size of the buffer zone, relative to fumigating the entire field in a single day.	
60	For every foot of production land that is not treated with methyl bromide, the untreated pests will remain. This will force disease and pests into the treated area as production season continues, and additional pesticides will be used with added costs to the grower and the environment. Yield loss will also occur over time to the buffer zone portion of the crop, resulting in greater economic loss to the grower. ***See response in Attachment A-1.***	43
61	Section 6450.2 contains a minimum of 50 feet for the inner buffer zone and 60 feet for the outer buffer zone. These overly restricted buffers have had a negative impact on small strawberry farmers. DPR feels that the 210 ppb limit is not exceeded when there are no buffer zones in place (page 12 of initial statement of reason). We understand while a measure of protection is warranted, a smaller zone will not negatively impact small farmers while still affording necessary protection. Reduce the minimum buffer zone to 40-feet. ***See response to comment #62.***	50
62	The proposed regulations have a minimum inner buffer zone of 50 feet and a minimum outer buffer zone of 60 feet. CDPR has data on file, which supports a 30-foot inner buffer zone and a 50-foot outer buffer zone. Therefore, CDPR should make regulations consistent with the data that they have. ***DPR modified the text to reduce the minimum buffer zone to 30 feet for limited acreages and use rates. The modeling procedures that established the buffer zone tables indicated at small acreage and use rates that no buffer zone was needed. DPR established a uniform minimum buffer zone of 50 feet. The buffer zone table continues to maintain the minimum buffer zone of 50 feet but extrapolated back to 30 feet in some limited instances. DPR as determined that this reduction from 50 feet to 30 feet will continue to provide adequate protection from possible acute methyl bromide exposure hazards to the public and agricultural employees.***	42, 46

63	The 50-foot inner buffer zone is the greatest economic impact upon small farmers. The result is untreated portions of each field. ***DPR has modified the text to reduce the minimum buffer zone to 30 feet. The buffer zones are based on the most recent scientific data available. These data indicate that fumigations without buffer zones mayresult in unacceptable exposure to methyl bromide. While DPR has attempted to minimize the economic impacts of the regulations, DPR is obligated to mitigate unacceptable exposures to methyl bromide and all other pesticides. The buffer zones can be reduced if alternative application methods or other mitigation measures can be developed to decrease the emissions of methyl bromide from treated fields.***	41, 42
64	Reduce the inner buffer zone from 50 feet to 30 feet because data on distances to 210 ppb form fumigated fields does not support 50 feet; toxicology studies indicate exposure levels are overly conservative; recoveries for air sample analyses should be adjusted by 50 percent; and the nature of the inner buffer zone itself in relation to activity and wind direction. ***See response to comment #62.***	41, T-4
65	Minimum buffer zones should be designed to prevent exposure at or above the appropriate acute toxicity targets for the public. Depending on size of field treated and the pounds applied, in some cases inner and outer buffer zones of less than 50 and 60 feet, respectively, are indicated. Commissioners should have the flexibility to utilize appropriate buffer zones consistent with DPR data and local conditions. ***See response to comment #62.***	49
66	Supports sections 6450.2(e)(A) & (B) and believes they actually decease risk to workers without increasing risk to the public. ***DPR agrees.***	42, 49
67	Section 6450.2(f) requirement that the outer buffer zone shall not extend into properties that contain schools, convalescent homes, etc. may be unnecessarily restrictive in some circumstances. Properties may be very large and the actual occupied area may be remote from the location of the outer buffer zone. Commissioners should have the flexibility to allow extension of outer buffer zones onto such properties if the outer buffer zone boundary is sufficiently remote from human occupation to preclude potential exposure. ***DPR believes the outer buffer zone could include some types of buildings if they are unoccupied during the***	49

	entire time the outer buffer zone is in effect. The two types now recognized are residences and onsite employee housing. These two types of structures can be managed to ensure they are unoccupied. The regulations continue to not allow the buffer zone to extend onto property that contains a school, convalescent home, hospital, or other site identified by the CAC. These types of structures might be difficult to vacate and manage to ensure they remain unoccupied (at least 36 hours) during the entire time an outer buffer zone is in effect.	
68	We generally support the regulatory language (section 6450.2(f)) which advances a system of necessary protection which allows the outer buffer zones to extend onto other limited properties without introducing risk. ***DPR agrees.***	42
69	Supports the ideas of sections 6450.2 (g) and (h) that the operator of adjacent properties, onto which outer buffer zones extend, should provide notification to onsite employees about the establishment of the buffer zone. It is problematic to require the operator of the treated property to assure that the adjacent property operator comply. What sort of evidence is reasonable to "assure" that the adjacent property operator has notified his worker? As an alternative, the operator of the treated property should follow a similar procedure in 6450.2(e)(3)(A), i.e., obtain written permission and post the outer buffer signs containing appropriate language. ***A description of the notification procedure must be submitted as part of the work site plan prior to issuance of a permit. The CAC can condition the permit's notification requirements that are most appropriate for the affected persons based on local conditions.***	42, 49
70	Section 6450.2(i) should be reworded to that application is completed no less than 36 hours before school session, rather than exactly 36 hours before a school session. ***DPR agrees and modified the text to reflect this change.***	42
71	Available pesticide illness data indicates that the minimum buffer zone duration should be increased in order to protect farmworker and public health. The DPR should increase the duration of buffer zones from 36 hours to 48 hours in section 6450.2(c) to prevent acute illness among people working and living close to fumigated fields. ***DPR disagrees. DPR monitoring data shows that period of highest methyl bromide emission is 48 hours for the start of injection. The regulation requires at least 36 hours after the end of injection, assuming that injection takes 12 hours to complete.***	47, T-9

72	Larger buffer zones of greater duration are particularly needed in instances where inversion conditions develop in the first 48 hours after fumigation has been completed. Inversion conditions developed after the fumigation was completed in the incident described above. In this incident the temperature rose from 64 F at 8 am to 77 F at 10 am and the weather conditions were very calm. ***The illnesses from the incidents cited appear to be due from exposure to chloropicrin rather than methyl bromide. These regulations will indirectly reduce exposure to chloropicrin, although they are designed to completely control its exposure. In addition, CACs may implement larger buffer zones based on local conditions for situations where a fumigation is likely to occur during an inversion with people nearby.***	47
73	We commend DPR for incorporating the buffer zone charts into the regulation. This is a significant improvement from the previous regulations. However, it is inappropriate to ever allow County Agricultural Commissioners to impose conditions on methyl bromide use that fall below the mandated floor established by DPR's June 2003 buffer zone determination document. County Agricultural Commissioners can exercise their discretion by imposing more stringent and more health protective conditions, but should never be allowed to loosen those requirements, especially when based on unspecified and vague "other information" as currently allowed in the draft regulation. If DPR expects CACs to consider other criteria in setting and approving buffer zones, those criteria must be stated in the text of the regulation. Otherwise, the regulation is entirely vague, ambiguous, and unclear. Neither the regulated industry, nor those directly affected by the regulations, will have any idea of how buffer zone sizes will be established. This section should be modified by striking from the second sentence the words "unless" up to the end of that sentence. ***See response to comment #47.***	47, T-12
74	With respect to the target concentration level utilized by DPR to establish the sizes of the buffer zones, we share OEHHA's concern that the acute REL of 210 ppb may not be sufficiently protective of children, infants, and the developing fetus. DPR would both fail to adequately protect these sensitive populations and be in violation of state law unless it modifies the final regulations so that they are based on the recommendations of OEHHA to calculate buffer zones based on an acute REL of 90 ppb, derived from OEHHA's acute one hour REL or an acute REL of 77 ppb, derived by adding an additional uncertainty factor to DPR's acute REL of 210 ppb. Pesticide episode investigations conducted in Sonoma and San Luis Obispo counties in the last several years also suggest that buffer zones may be inadequate to protect adults. ***DPR does not consider it appropriate to use the OEHHA acute one hour reference exposure level (REL) to develop the reference concentrations. DPR has concerns regarding the use of data from the Watrous study***	47

	(Watrous, 1942), which was a worker exposure and mitigation study conducted in 1942. This two-page published study has many limitations. The exact exposure concentration for each worker was unknown since the measurement was based on the color of the flame detector. The relationship between exposure and effect cannot be established since there were no individual data on these parameters. The dose-response relationship can only be assumed as OEHHA has done in using this study to develop the acute REL of 1 ppm. Furthermore, it should be noted that OEHHA (memorandum of November 10, 2003) recommended the use of both OEHHA REL of 1 ppm and DPR's 210 ppb reference concentration, depending on exposure scenarios. With regard to adding an unadditional uncertainty factor to the 210 ppb, DPR cannot evaluate this point at this time since no scientific justification was provided.	
75	It is unacceptable to grant agricultural commissioners discretion to lower buffer zones, since this decision would rely on too many uncontrolled variables that cannot be adequately or consistently determined by agricultural commissioners. There are too many variables, and we think that it should be a standard that is set at the state and left at that. ***See response to comment #47.***	T-9
76	In addition, the Initial Statement of Reasons ("ISOR") is incomplete because it fails to mention that one of the peer reviews conducted of DPR's buffer zone modeling process was highly critical of DPR's methods and the reviewer, Professor William Nazaroff of U.C. Berkeley recommended recalculation of buffer zones using worst case or near worst case weather data. ***DPR considered the peer review comments during the development of the regulations. These documents have been included in the rulemaking file.***	47
77	DPR subsequently analyzed CIMIS weather data and concluded that buffer zones are not 100% effective in reducing exposures to 210 ppb. According to this analysis, required buffer zones for 40-acre fumigations were only protective 89% of the time for applications with predicted emissions of 30 lbs/acre-day and 80 lbs/acre-day. For other acreages and emissions buffer zones were predicted to be protective between 91.5 and 100% of the time. It should be noted that Kern county weather data was clearly worst case because it included 37% calm hours, compared to around 20% for Monterey, Ventura, Fresno and Merced counties. However, Kern data was not used in DPR's analysis because the computer program would not work well when the percentage of calms in the weather data exceeded 30%. The value of these modeled exposures is thus questionable.	47

	DPR was unable to use weather data from Kern County. However, weather data for Fresno and Merced are likely comparable to Kern.	
78	Allowing inner buffer zones to extend into adjoining properties presents difficulties in enforcement—not only do the proposed regulations require an applicator to monitor the activities of farmworkers *employed by someone else*, but they also require an applicator to monitor activities on property *owned by someone else*. This regime increases the risk of worker exposure, since pesticide poisoning of workers often results from inadequate communication between the parties involved (i.e. the landowner, the applicator, the farm labor contractor, the foreman/supervisor, and the farmworkers). The proposed amendment to this section greatly increases the possibility of such communication breakdowns and consequent worker exposure. ***DPR has maintained the same restrictions for the inner buffer zone and disagrees that allowing the inner buffer zone to extend onto adjoining agricultural property will adversely affect worker exposure. The inner buffer zone is allowed to extend onto adjoining agricultural property under carefully controlled conditions. These conditions include the adjoining property can only be agricultural and written permission must be obtained from the property operator. In addition, the boundary of the buffer zone must be posted and the operator of the adjoining property must inform his/her employees of the existence of the buffer zone. To get written permission from the neighboring property operator, there will need to be open communication and each party will be informed of the application plans. This type of communication should avoid the communication breakdown leading to pesticide poisoning cited. All other inner buffer zone restrictions remain, so exposure control is unchanged for the application employees.***	47
79	If DPR goes forward with the proposed amendments that allow the extension of the inner buffer zone into adjoining properties, then the regulation must *at a minimum* require the following changes to the inadequate posting requirements of proposed section 6450.2(e)(3)(A)(2). The entire sign must be in both English and Spanish and should contain a skull and crossbones as a universal symbol of danger. ***The posting requirement is meant to provide an additional safety measure when the inner buffer zone extends onto adjoining agricultural property. This posting will demarcate the boundary, inform (in English) about the chemical and buffer zone, and warn (in English) to keep out and (in Spanish) that entry is not allowed. This sign is not meant to be as comprehensive as the posting at the edge of the treated field also required by labeling for these products. Workers possibly affected by this posting should already be aware of the nature of the buffer zone and these signs only point out the location physically. DPR disagrees the sign should contain a skull and crossbones symbol. The skull and crossbones should only be used to indicate danger. There is no immediate danger associated with the buffer zone, only a restriction to avoid exposure above the DPR target***	47

	exposure value. There is no need to post the inner buffer zone in its entirety, only those portions that extend onto the adjoining property as an additional safety measure.	
80	Proposed section 6450.2(e)(3)(B) allows the extension of inner buffer zones across "streets, roads, roads within agricultural property, highways, and other similar means of travel." However, the regulations do not require any written permission or posting requirements, endangering public safety. Unsuspecting travelers will pass through buffer zones and have no knowledge that they may be exposed to methyl bromide. There is no justification for depriving people of this information. At the very least, travelers should be notified in accordance with the requirements of section 6450.2(e)(3)(A). The regulations must not allow inner buffer zones to cross roads and other public throughways. ***Existing section 6450.2(e)(2) requires that the operator of the property to be treated assure that no persons are allowed within the inner buffer zone except to transit and perform fumigation-handling activities. Therefore, the operator of the property to be treated would be in violation of this section if he/she allowed otherwise. The CAC will be reviewing and approving the proposed work site plan and buffer zones prior to the fumigation. If the CAC is not convinced that possible access by road crews and utility workers will not be a problem, he/she can disapprove the extension of the inner buffer zone across the site.***	47
81	We have concerns that buffer zones can include roads and rights-of-ways since notification to drivers and their passengers and other people in these areas is nearly impossible. We are not sure how notification will be provided to people in these areas when those are considered buffer zones. ***Notification is not required to everyone who may be inside the buffer zone. People transiting, such as driving, through the buffer zone are not required to be notified. People transiting through the buffer zone spend minimal time in the buffer zone and negligible methyl bromide exposure.***	T-9
82	The proposed regulations are insufficient because they do not require advance notice to farmworkers, and because there is no requirement that the notification be in writing. The proposed regulations must require advanced notice to farmworkers, instead of merely requiring notice *on the day of application.* Previous proposed drafts of this regulation treated property owners and farmworkers fairly equally with respect to receiving advance notification of fumigations. See former proposed regulation sections 6450.1(b)(1), 6450.1(b)(2), and 6450.2(f)(4). Under the draft proposal, each group was required to receive written notification, including the name of the chemical, the name and business address of the methyl bromide permittee and the CAC, and information about requesting more specific information. See former proposed section 6450.1(b)(1) and 6450.2(f)(4). Additionally, for specified adjoining property owners and farmworkers who so requested, the	47, T-6, T-8, T-9

	permittee also would have been required to inform them of the specific date and time of the start of the fumigation and the anticipated expiration of the buffer zones. ***Requiring initial notification is not practical since it may be unknown which workers may be available at the time of fumigation or while the buffer zone is in effect. This places an unwarranted burden on both the other property operator and his/her employees, especially if the services of a labor contractor are utilized. Notifying and accommodating newly hired employees and employees that have been absent from work, and employees who have different work hours than others could be difficult. To avoid these situations and ensure workers are informed in all cases before they begin work, the regulation requires (as a minimum) employees be informed prior to the commencement of the employee's work activity. Therefore, items in the initial notification such as how to receive specific date and time are not relevant to workers.***	
83	The last sentence of proposed section 6450.2(g) should be modified. There is no reason to limit the information provided to farmworkers only to the limited information (date and time of application only) specified in section 6450.1(b)(2). Instead, the information required to be provided to farmworkers must be expanded to include all information specified in section 6450.1(b)(1)(A), (B) & (C). There is no compelling reason to treat farmworkers less favorably than others by limiting the type of information they are required to receive about a methyl bromide fumigation. The proposed regulations do not mandate written notice to farmworkers that a buffer zone has been established on the property on which they work, as contrasted with written notice that others would receive under the regulation. Without written notice, it is impossible to enforce this provision. Thus, DPR must amend the regulations to require enhanced farmworker notification. ***The only information provided under section 6450.1(b)(1) to people residing near a fumigation, but not to farmworkers under section 6450.2(g) is contact people for more information. People notified under section 6450.1(b)(1) may have no knowledge of the fumigation or the origin of the notification. Section 6450.1(b)(1) provides notification recipients sources of additional information. Farmworkers notified under section 6450.2(g) are provided information on the fumigation and buffer zones by their employer. It is easier and less confusing for farmworkers to seek additional information from their employer, rather than the contacts described in section 6450.1(b)(1).***	47

84	Increase the duration of proposed buffer zones from 36 hours to 48 hours to help reduce exposure and the resulting acute illnesses among people working and living close to fumigated fields. ***The monitoring data actually show that the time a buffer zone is needed varies with application method and the amount of methyl bromide applied to the field. Therefore, DPR has developed a series of tables that specifies the buffer zone duration as a function of application method and amount of methyl bromide. Since this procedure is very similar to the one used to determine the buffer zone distance, DPR has proposed parallel requirements. The regulations require a <u>minimum</u> buffer duration of 36 hours, and the procedure used to determine the buffer duration will be established with conditions on the restricted materials permit.***	57
85	Proposed regulations must not allow inner buffer zones to extend to adjoining properties. In 1996, my backyard was used as part of the buffer zone without my knowledge and, more importantly, without my permission. ***The regulations allow the inner buffer zone to extend into adjoining agricultural properties. Permission of the owner is also required.***	T-6
86	Regulations allow inner buffer zones to cross roads and other public throughways. The new regulations raise substantial additional concerns, including an inadequate notification period, an unclear notification schedule, and an allowance for nonwritten notice. ***See response to comment #81.***	T-6

METHODS

87	Under the "Guidance Document" previously used as part of the emergency regulations issued by CDPR, there was an application method 6450.3(a)(3)(B) 1 Tarp/Shallow/Broadcast/Strip Application that is not included in the current proposal. In this "Guidance Manual" there was language that discussed the means used to calculate the dosage that has not been included in the current proposal. This method is critical to growers who rely on this type of application. Also, there is no data to support the exclusion of this method. Additionally, for application methods (5)(B) 1 and (5)(B) 2 Tarp/Deep/Broadcast the emission ratio should be 0.20 rather than the 0.40 listed. Data has been submitted to support this point. ***DPR has revised the document,"Methyl Bromide Field Fumigation Buffer Zone Determination, Est. 2/04" to include strip fumigations. DPR has revised the tarp/deep/broadcast emission ratio to 0.25 based on information recently submitted. The information is included in the "Documents Relied Upon."***	42, 44, 46

88	Section 6450.3(a) should be modified so that alternative application methods can be used with the approval of the Director or CAC. ***Alternative application methods would require changes to buffer zones, work hour limits, restricted entry intervals, and possibly other regulation changes. DPR believes these types of changes should be made through the rulemaking process.***	42
89	A variation of the Tarpaulin/shallow/broadcast method (section 6450.3(a)(3)) known as "strip fumigation," which involves fumigation of alternating tarped sections or strips of a flat field, is dramatically increasing as a fumigation method. Smaller buffer zones are required for this method because it involves lower application rates per acre. We are concerned that this method is being allowed even though no field-side air monitoring specific to this method has been conducted. The estimated emission ratios which DPR originally put in place when very high barrier tarp and hot gas fumigation methods were introduced were shown to be far too low when field monitoring was eventually conducted. A similar chain of events should be avoided with strip fumigation by conducting field-side monitoring before further use of this method is allowed. ***The regulations were modified to specifically address strip fumigations. These applications consist of alternating tarped fumigated areas and unfumigated areas. DPR has no specific monitoring data for these applications. As a conservative health protective measure, DPR specifies the same size buffer zones as untarped fumigations. Since tarped fumigations have lower emissions and smaller buffer zones than untarped fumigations, buffer zones for strip fumigations (partially tarped) are likely larger than necessary to provide adequate protection.***	47

WORKER SAFETY

90	Regulations rely on respirators to reduce fumigation workers exposure during pesticide application and tarp repair. Yet CA DPR's respirator regulations are weaker than those set by the U.S. Occupational Safety and Health Administration and the proposed regulations, and allow use of respirator cartridges that have not been evaluated by any government agency. ***DPR's respiratory protection regulations, contained within 3CCR section 6738(h), are adequate for protecting pesticide workers from inhalation hazards. Though not in the same format as Department of Industrial Relations' 8CCR 5144 Respiratory Protection regulation, DPR's regulations do provide the necessary level of safety for pesticide users. Present regulations require that employers: (1) have employees use approved***	1-7, 11-18, T-3, T-8

	respiratory protective equipment; (2) provide respiratory protection equipment approved by the National Institute for Occupational Safety and Health (NIOSH) and/or the Mine Safety and Health Administration as required by label; (3) select proper respiratory protective equipment following pesticide product labeling, or absent specific instruction, according to the guidance of National Standard Practices for Respiratory Protection: Z88.2-1980, or the American National Standard Practices of Respiratory Protection During Fumigation: Z88.3-1983; (4) develop written operating procedures for selecting, fitting, cleaning and sanitizing, inspecting and maintaining respiratory protective equipment; (5) inform employees, prior to beginning work, that certain medical conditions may interfere with wearing a respirator while engaged in potential pesticide exposure situations; and (6) dispose of respirator filtering media daily, unless otherwise directed by the pesticide manufacturer or the respirator manufacturer. This itself is not an exhaustive list of DPR's respiratory protection requirements. ***DPR does not engage in independent evaluation of NIOSH-approved respirator cartridges. NIOSH itself does not normally require chemical specific testing of organic vapor cartridges, but instead mandates the use high carbon tetrachloride challenges (1,000 ppm) over a minimum service life (50 minutes) as a proxy for all organic vapors. A manufacturer, in this case 3M, has done further chemical specific testing of their NIOSH-approved 60928 chemical cartridge. In particular, they have tested this cartridge against both methyl iodide and methyl bromide. The 60928 cartridge uses a triethylenediamine (TEDA) impregnated charcoal for its absorption bed. It was found by G. Wood (American Industrial Hygiene Association Journal, Vol. 42, Issue 8, pages 570-578) to be effective in absorbing and immobilizing methyl iodide, even at sub-PPM levels. 3M explicitly states on their cartridge bag and on the accompanying literature that this cartridge is only to be used in atmospheres containing less than five ppm methyl bromide (or methyl iodide).***	
91	Section 6784 proposes a new restriction on employee work hours and workdays in regards to fumigation-handling activities. Will growers be able to provided respirator training if they need their employees (i.e., shovelers) to be in the fumigation field for more than 3 days? ***The employer is responsible to assure that the employees are trained prior to the use of a respirator.***	42, 50
92	We are concerned that the majority of reputable scientists asked to review the scientific basis used to establish the new work hour and workday restrictions do not agree with NOEL determination of 5 ppm. While it is important to establish safe thresholds, being overly conservative without a consensus of scientific justification is not a sound way to develop public policy. The 20 ppm is the more acceptable NOEL and request that this threshold is used instead. ***DPR does not agree with the commentor's recommendation to change the NOEL from five ppm to 20 ppm. See response in Attachment B.***	50

93	One area of concern is respirator training for shovelers. Shovelers are not employees of the fumigation company, they are under the supervision and employment of the grower. The applicator can't be responsible for training and/ or record keeping for someone who is not any employee. We do not have the power or right to require cooperation or information from them. ***The employer is responsible to provide respiratory protection and training for shovelers. See response to comment #91.***	42, 46
94	In the Guidance Manual under Table 6. "Fumigation Handling Activities" maximum work hours were listed without respiratory protection. These maximum work hours were carried over to Table 2. Comparing these with Table 1, maximum work hours with respiratory protection, significant discrepancies occur. In most cases the hours are at least doubled if respirators are worn. The only exception is for shovelers where they go from 3 hours with no respirators to 4 with a respirator. The shovelers work hours should be increased to a minimum of 6 hours when wearing respiratory protection. ***DPR agrees with the commentor that, in most cases, work hours are at least doubled if respirators are worn, except for shoveling. In the regulations, shoveling and copiloting are grouped for each application method due to lack of exposure studies for some application methods. For health protective purposes, the most restrictive work hours of the two work tasks or work hours of an available study were used.***	46
95	What happens when a farmer employee plans to work 3 days without a respirator, but unexpectedly must work additional days? ***The regulations stipulate that in order for an employee to work without respiratory protection, the employee's total workdays performing fumigation handling activities do not exceed three days in a calendar month. The three workdays must be predetermined and cannot be increased in a calendar month due to requirements in respiratory protection. For example, if an employee needs to increase workdays from three to four days in a calendar month, the employee did not have respiratory protection for the first three days. Such practice is not acceptable by the proposed regulations because the employee cannot simply wear a half-face respirator on the fourth day and not the first three days.***	42

96	Who is responsible for keeping the records required for shovelers? ***Section 6784(b)(1) requires the employer to maintain handler records for all employees involved in an application. In most cases, methyl bromide is applied by a Pest Control Business (PCB) and is responsible as the employer to maintain employee records. When an application is conducted by a grower, then the grower is responsible for keeping employee records. However, if the grower's employees will be assisting with the application by shoveling at the edges of the field, the PCB must calculate the number of hours the employees are allowed to work and provide this information to the grower in writing, prior to the application.***	42
97	If respiratory protection issues require the shovelers be provided by the fumigation contractor, costs will significantly increase for growers. ***The regulations do not require the fumigation contractor to provide shovelers. See response in Attachment A-1.***	42
98	In section 6784 (b)(3)(B), the language should be modified to say "… provided the employee's total workdays <u>in fumigation activities</u> do not exceed three days in a calendar month." ***DPR agrees. Section 6784 (b)(3)(B) was modified as suggested to say "…provided the employee's total workdays performing fumigation-handling activities do not exceed three days in a calendar month."***	42
99	There is considerable question as to how the three-day exception is justified and concern as to how that will work with mixed crews on fumigations next to each other. In each of these situations, it could result in different safety practices being employed between those doing the same job. This will cause employee confusion, negative reaction, and needless alarm from the passers-by or employee representatives. ***Section 6450(a) requires that the proposed work site plan include a description of any workday/work hour limitations and respiratory protection as specified in sections 6784(b)(C)(3) and (b)(3). During the CAC's evaluation of the proposed work site plan prior to the submission of the notice of intent, the required workday/work hours for each work activity are established as permit conditions and are described in work site plan for the permittee to follow. As an enforcement "focused activity" the CAC can use work site plans to flag and schedule fumigation application inspections to ensure that employees are in compliance with fumigation-handling activity workday/work hour limitations and respiratory protection requirements specific to each fumigation application.***	42

100	We support this regulatory provision (section 6450(b)(6)) and the statement of reasons regarding respiratory protection. ***No response necessary.***	42
101	Proposed work hour limitations are inadequate because they are based on the relaxed methyl bromide adult subchronic REL of 18 ppb. We agree with OEHHA's assessment that the subchronic REL for adults should remain at 2 ppb. ***DPR does not agree with the commentor's recommendation to change the subchronic (seasonal) REL for adults (occupational) from 16 ppb to two ppb. See response in Attachment B.***	47, T-8
102	The following characterization in the Statement of Reasons (page 21) is completely misleading: "After extensive field studies, DPR concluded the six allowed methods of application resulted in acceptable levels levels of methyl bromide exposure." The NAS Subcommittee which reviewed DPR's methyl bromide risk assessment also concluded that the available occupational exposure data for methyl bromide are of poor quality because there are so few replicates for each type of exposure. ***DPR relied on the available data to support the work hour limitations in the regulations.***	47
103	Allowable work hours were determined based on average exposure levels. We strongly disagree with this approach and think that the 95th percentile should be used because the poor quality and high variability of the exposure data result in a high level of uncertainty in calculating an average exposure level. ***DPR is aware that some exposure studies have a limited number of replicates. Based on our present policy, DPR uses the 95th percentile for exposures lasting 7 days or less (acute or short-term) and the average (arithmetic mean) for exposures of longer than 7-day duration (seasonal or intermediate-term). The reason for using an average daily exposure rather than an upper bound is that over these durations, a worker is expected to encounter a range of daily exposures. That is, with increased exposure duration, repeated daily exposure at the upper-bound level is unlikely. It is unfortunate that some studies have one or two replicates. We assume that methyl bromide exposure from one replicate is in the same order of magnitude of an average of several replicates. While we understand the uncertainties associated with small sample sizes, we feel that requirements on work hours and respiratory protection in the regulations should not jeopardize workers' health.***	47

104	Where section 6784 specifies use of a half-mask respirator or full-face respirator the specific respiratory protection requirements in section 6784(b)(6) should be referenced to avoid a misunderstanding that any half-mask respirator and cartridge would be acceptable. ***DPR agrees with the reviewer's suggestion. The specific respiratory protection requirements in section 6784(b)(6) were moved and is now shown in section 6784(b)(2)(C).***	47
105	For fumigators, we are particularly alarmed by the proposal to allow employees to work more than an hour in tarp repair if they wear half mask respirators, because this process involves bending real close to the fumigated ground. We think the levels could get very high, and you need to wear SCBA for that work. ***Under the regulation, section 6784(b)(5)(C) requires that the "...ambient air in the damaged areas of the tarpaulin . . . must be tested . . ." and that the person doing the testing must wear an SCBA when conducting this testing. Then, under section 6784(b)(5)(D), only if the air levels are found to be ". . . less than 5 parts per million . . ." can an unprotected worker conduct repair activities, and then only for 1 hour or less.***	T-3, T-8

GENERAL

106	Section 6450(e) should be modified to give the Director authority to change the permeability requirement if improved tarps are developed. At the least, there should be some provision for commercial scale experimental work with new tarps. ***DPR agrees that improved tarpaulins should be allowed, and modified the text accordingly. There is a mechanism (a research authorization pursuant to 3CCR section 6260) already in place to recognize improvements and move a new tarpaulin into regulation.***	42, 49

107	The "raised-tarpaulin nursery fumigations of less than one acre" exemption is not justified and undermines the effectiveness of the regulation. DPR typically includes nursery fumigations in soil fumigation permit conditions and thus, for consistency, nursery fumigations should not be exempt from this rulemaking. In contrast, fumigation of tree holes, potting soil, and greenhouse fumigations—which are properly listed as exempt from the proposed regulations—require separate regulatory language because they involve different equipment and processes. In addition, encouraging nurseries to fumigate in plots of less than one acre increases the risk of sub-chronic exposure to nearby workers and residents because the fumigations would occur more frequently during concentrated periods of time. ***See response to comment #18.***	47
108	Support clarification that tarp removal is only a "fumigation handling activity" prior to the expiration of the re-entry period. ***DPR agrees.***	42
109	A big concern is the lack of research and the lack of movement on behalf of DPR to look at alternative methods of treating pest problems. ***See response to comment #21.***	T-9

ECONOMIC IMPACT

110	Dazitol will increasingly be recognized as a technically and economically feasible soil fumigant alternative to methyl bromide preplant use. ***No response necessary.***	34
111	With the looming loss of methyl bromide, growers, scientists and university experts are investing millions of dollars and countless hours in search for a viable replacement. Unfortunately, not a single effective and economically viable alternative has been found. ***No response necessary.***	43

112	We strongly disagree that there will be no significant impact to the agricultural community from this proposed regulation. There are a number of new requirements from reporting; notification and fumigation handling that will require time and money to implement. ***See attachment A-1 for response.***	50
113	Disagree that the proposed regulation will not have an adverse economic impact on California's strawberry industry. Agricultural economists for the UC Davis found that the 2001 methyl bromide regulations would cost the California strawberry industry over $25 million per year. Proposed regulations will have a more adverse economic impact on the industry due to the inclusion of additional restrictions not in the 2001 regulations. ***See attachment A-1 for response.***	49
114	It is very inappropriate for DPR to conclude that "this regulation will not have a significant statewide adverse economic impact directly affecting businesses, including the ability of California businesses to compete with businesses to compete with businesses in other states." California agriculture does not compete with other states, none of which have these regulatory restrictions. The methyl bromide industry and the farm community have raised significant economic impacts and the UC's analysis indicated this also. ***See attachment A-1 for response.***	41, 42
115	The 50-foot minimum inner buffer zone has had a big impact on growers farming small fields. CDFA's Consultative Unit has also made this point to DPR. The minimum should be reduced to 30 feet, partially providing relief without increasing safety risks or costs. ***The text was modified to reduce the minimum buffer zone to 30 feet while still continuing to provide adequate protection form possible acute methyl bromide exposure hazards to agricultural employees.***	41, 42
116	DPR properly classifies this as a major regulation and therefore, the impact on California's economy is large, and a reduction of the minimum buffer zones and elimination of the unnecessary acreage caps are warranted. ***See Attachment A-1 for response.***	41, 42

117	DPR should review this regulatory package in the spirit of the Governor's recent Executive Order as to any "new" regulatory provisions, particularly if they may be unnecessary, difficult as well as costly to implement or to comply with by the regulated community. The acreage cap falls in that category because there's no compelling need, great uncertainty on how it could possibly be implemented, and new costly mechanisms would have to be instituted by CACs. ***See response to comment #30.***	41, 42

NOTIFICATION

118	Section 6450(b)(1) – Notification of property owners outside the outer buffer zone is not necessary because DPR has determined that there is no risk. Unnecessarily warning people has and will continue to have a negative impact. ***The purpose of this requirement is to provide an opportunity to persons who reside in proximity to an intended fumigation site to receive notification that a restricted material permit has been issued to use methyl bromide on a fumigation site near their property. Also, it is intended to give those persons the opportunity to request further specific notification of the date and time of the actual fumigation.***	46
119	Notification process is complex and involved; however it has been in operation in the field and appears to be satisfactory. ***No response necessary.***	42
120	The 7-day initial notification period is grossly inadequate. Instead, subsection (b)(1) should require initial notification within a short time *after permit issuance*. We previously suggested that the initial notification should take place within 10 days of the issuance of the permit. Absent this requirement, the public is not notified early enough in the process to become informed and to take necessary steps for self-protection. Moreover, an earlier notification period would account for people being out of town, ill, or otherwise unable to respond within the 7-day period. Thus, DPR should require that initial notification take place within 10 days of permit issuance. ***This subsection requires the operator of the property to be treated to notify operators of certain other property at least seven days prior to submitting a Notice of Intent (NOI) to the CAC. Notification within 10 days of issuance of a permit may be too far removed from the application to provide meaningful notification. For example, a permit might be obtained at the beginning of the year for a fumigation six months later. DPR feels***	47, T-6

	that notification within a reasonable time of the fumigation is more practical and pertinent. This is a minimum time and a longer notification time would always be possible or could even be required by the CAC based on local conditions. The regulation will ensure that nearby property operators will have at least seven days advance notice of a planned fumigation. The seven day period added to the 48-hour NOI time frame provide for a total of at least nine days before a fumigation can take place.	
121	The notification schedule is unclear. For example, a grower could send out the initial notice on February 3 stating that the 7-day period is February 5-11, or send the initial notice in January and say that the 7-period to request notification is in July. This does not provide certainty for anyone, and fails to meet the "clarity" standard of Cal. Gov. Code section 11349.1 ***See response to comment #120.***	47
122	While this subsection requires written notice, it also allows for notice "by other means approved by the Commissioner." This places too much discretion in the hands of the County Agricultural Commissioner, and lacks criteria for determining whether other means of notification are sufficient. Moreover, we believe that the regulations should require notice in Spanish and English to afford maximum notification. ***DPR modified the text to require the initial written notification be in English and Spanish. However, the regulation does not limit the notification to the English language. A description of the notification procedure must be submitted as part of the work site plan prior to issuance of a permit. The CAC can condition the permit's notification requirements that are most appropriate based on local conditions.***	47, T-6
123	Subsection (b)(2) fails to state the manner in which the applicator must provide the 48-hour notification. To meet the "clarity" standard for regulations, the regulations must explicitly require that the initial and subsequent notifications be in writing and in a bilingual format (English and Spanish). ***DPR agrees with the commentor that 6450.1(b)(2) does not specifically identify the manner in which subsequent notification must be provided. However, because specific fumigation (subsequent) notification is required to be provided at least 48 hours prior to the fumigation, it is not practical to require notification to be in writing. A description of the notification procedure must be submitted as part of the worksite plan prior to issuance of a permit. The CAC can condition the permit's notification requirements that are most appropriate based on local conditions.***	47, T-6

124	To maximize protection of public health, DPR must require *automatic* initial and subsequent notifications, as opposed to placing the burden on the public to request notification. If DPR does not make significant changes to the notification requirements, then this two-stage approach will fail to provide necessary information to the public. ***The regulations require the operator of the property to be treated to provide considerable information to the neighboring property operators within 300 feet of the outer buffer zone. The specific date and time may not be available at the time of initial notification. The only requirement for these neighbors would be that associated with requesting the specific date and time of the fumigation.***	47, T-6
125	Require 48 hour written notification to property owners near application sites, in English and Spanish. ***The regulations were modified to require initial written notification in English and Spanish. If those persons notified request specific fumigation information, notification is required 48 hours prior to fumigation.***	57
126	There were 2 or 3 speakers that gave the impression that perhaps notification to farm workers was missing from the regulations when, in fact, the regulation does provide. Unless the speakers are now requiring that the applicator give individual notice to all of the individual agricultural workers, I think that the existing regulation as written is adequate. ***No response necessary.***	T-5

OTHER

127	In general, the following summarizes comments not relevant to the scope of the regulations: Public employees are charged with over sight on matters pertaining to public health, delay the removal of toxic material. Methyl bromide should not be used on our foods. Make stringent rules that limit the use of methyl bromide. Need to reduce and/or eliminate methyl bromide use in California. Work towards phasing out not increasing use of methyl bromide. Methyl bromide still remains terrible hazard to farm workers and children who attend school, stop use. Do not lax the regulations. Initiate a strong tangible plan to phase out methyl bromide and others like it causing immediate pain and chronic havoc in our communities. Mandate use of sustainable pest management methods. This stuff works, I've used it for years. We are afraid of drift of pesticides. Methyl bromide destroys stratospheric ozone. Most farmworkers don't have health care, and most of the ailments don't get registered because they don't go to the doctors. Need a better way to track ailments. Commissioners do a thorough job. ***No response necessary.***	19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 35, 36, 37, 38, 55, 57, 59, 60, 61, 62, 63, 64, 65, T-11, T-15